

5/17/2018

Print



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Agg Da	
PO039702	TWM001-VU	1	1	Net 30	M6061T6T3.500XW.250	6061T Round Tubing : MATERIAL: 6061-T6 OR 6061-T651/T6510/T6511/T6 ROUND TUBING PER WW-T-70016 OR QQ-A.20018 OR QQ-A-22518 OR AMS 4080 OR AMS 4082 OR AMS 4083 A OR ASTM B210 OR ASTM B241 receive ft				12	5/18/2018	12		S072448	Stock	5/17/2018	\$ 27.92 / ft		
		2			M304TR0.750W.049	304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft				80		80		S072449	Stock	5/17/2018	\$ 2.58 / ft		
Total:										92		92							

Plex 5/17/2018 2:43 PM Dart Dubois Pascal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039702**

Supplier: TWM001-VU
TW Metals
PO Box 933014
Atlanta, GA 31193-3014 USA
Phone: 585 768 5600
Fax: 585 768 5601

PO No: PO039702

PO Date: 4/25/18

Due Date: 5/15/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
APR 25 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	M6061T6T3.500XW.250		6061T Round Tubing : MATERIAL: 6061-T6 OR 6061-T651/T6510/T6511/T6 ROUND TUBING PER WW-T-70016 OR QQ..A.20018 OR QQ-A-22518 OR AMS 4080 OR AMS 4082 OR AMS 4083 A OR ASTM B210 OR ASTM B241 receive ft	Firmed	5/15/18	12 ft	0 ft	12 ft	\$27.916666/ft	\$335.00
2	M304TR0.750W.049		304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed	5/15/18	80 pcs	0 pcs	80 pcs	\$2.579/pcs	\$206.32

Grand Total: \$541.32

Order Notes

[Handwritten signature]

DAS
11
9-89

DAS
11
9-89

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program
A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 4/25/18 10:09 AM dart.lavoie.chantal



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80928908

FROM: CHIC

PAGE 1

CUST NUMBER: 1203820 NET WGT: 65.361 REQ.DATE: 05/15/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 05/07/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039702 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
0001 45279 E6061-T6511 B241 3-1/2 OD X .250 WA 12 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	1.000 EA	1.000 EA	12.000 FT	36.023	1

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49387050 HT:50595171 PC: 1 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:323064

0002 36860 SMLS CD 304/L A269 3/4 OD X .049 WA 20' CL

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	80.000 FT	80.000 FT	80.000 FT	29.338	4

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49366898 HT:YX1108593 PC: 4 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:-

BROKERS KUEHNE AND NAGEL LTD

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
ABF	REDDICRATE	1.000	44.000	5.0000	150.0000	4
ABF	REDDICRATE	1.000	79.000	3.0000	246.0000	3
		2.000	123.000			

BY: CL

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 80928908

FROM: CHIC

PAGE 2

CUST NUMBER: 1203820 NET WGT: 65.361 REQ.DATE: 05/15/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA ONTARIO CANADA CN K6A 1K7 CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 05/07/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039702 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
RT 000- UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED _____

DATE FILLED _____

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
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O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 80928908

FROM: CHIC

PAGE 3

CUST NUMBER: 1203820 NET WGT: 65.361 REQ.DATE: 05/15/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 05/07/18
TERMS: NET 30 DAYS 235 TUBEWAY
F.O.B.: SHIPPING POINT CAROL STREAM IL 60188
CUST ORD NO.: PO039702
VIA: COMMON CARRIER
FREIGHT: PREPAID
RELEASE NO.:
RECEIVING PHONE:

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk

Cynthia Limon

Date: 5/09/18

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

1
THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304Hr0.750W.049
 DATE: MAY 17 2018

PO / BATCH NO.: 039702/5072449

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 80'
 QUANTITY INSPECTED: 80'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.049
 THICKNESS RECEIVED: W.049
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	<u>As per A213</u>
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	<u>Hard # YX1108593</u>
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-89 MAY 17 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING
 SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A269

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

	PERMISSIBLE OD TOL. (IN)	PERMISSIBLE WALL TOL.
UP TO 1/2	±0.005	±15%
1/2 TO 1 1/2, EXCL.	±0.005	±10%
1 1/2 TO 3 1/2, EXCL.	±0.010	±10%
3 1/2 TO 5 1/2, EXCL.	±0.015	±10%
5 1/2 TO 8, EXCL.	±0.030	±10%

PART NUMBER:

M304TR0.DDD|W|TTT
 OD | WALL

WHERE "DDD" = OUTSIDE DIAMETER IN INCHES
 AND "TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

RELEASED
 10/18/23 MJD

B	REFORMAT DWG. ADD SPECS (ZN D8-1).	CP	08.10.20
A	NEW ISSUE	DS	01.06.08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.20		

DART AEROSPACE LTD	
HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	M304TR
TITLE	304/316 ROUND TUBING
SCALE	NTS
REV. B	SHEET 1 OF 1

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 THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES FOR WHICH IT WAS ISSUED AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

MILL TEST REPORT

Purchaser.: TW METALS-Carol Stream				Certificate No.: 2017-9-108					
Contract No.: TWM P.O.No.: M49366898				Date of Issue.: 2017.9.16					
Commodity: Stainless Steel Seamless Tubes				Specifications: ASTM A213-17/ASME SA213-15/ASTM A269-15a EAW					
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions				Quantity		
TP304/TP304L	YX1108-593	7-32	3/4"x0.049"x20'				Pieces	Feet	
							250	5,000	
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.023	0.70	0.032	0.001	0.36	18.50	8.05	-	-
Product Analysis	0.020	0.67	0.034	0.002	0.34	18.67	8.13	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	63/64		97,000/98,000			41,000/42,000			
Test Item	Reduction of Area Z (%)		Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test	
Requirements	-		HRB≤80	-	22%	e=0.09	-	-	
Test Results	-		76/78	-	Passed	Passed	-	OK	
Test Item	Eddy Current Test		Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection			
Requirements	ASTM E 426		-	-	ASTM A262 E	End Cut	Appearance		
Test Results	Passed		-	-	OK	OK	OK		

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-17
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

**CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA**



By:

James Shi

James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China



C

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061H6+3.500xw.250

PO / BATCH NO.: 039702/5072448

DATE: MAY 17 2018

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.250
 THICKNESS RECEIVED: W.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	GG-A-200/8
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # 50595771
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

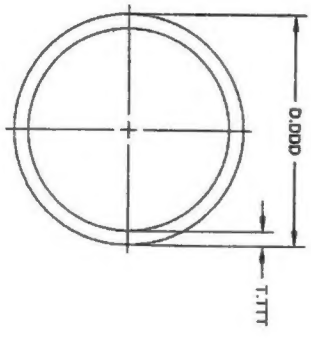
CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>11</u> MAY 17 2018	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6081-T6/T62/T6510/T6511 SEAMLESS TUBING
 SPECIFICATION: WW-T-7098
 OR QQ-A-200/8 OR QQ-A-225/6
 OR AMS-4083 OR AMS 4082 OR AMS 4083
 OR ASTM B210 OR ASTM B241
 PART NUMBER: M8061T6T/D.DDD/W.T.TTT
 WHERE "D.DDD" = OD IN INCHES
 "T.TTT" = WALL THICKNESS
 EG. 3/8" OD X 0.058 WALL = M8061T6T/D.375W0.058
 MATERIAL TOLERANCE: PER ANSI H35.2



RELEASED
 2013-07-02

COMPLETE REFORMAT, ADDED T6510 & T6511.		AJS	13.06.12
ADDED AMS 4083, ASTM B210 & ASTM B241			
ADDED MATERIAL TOLERANCE		GP	04.01.23
NEW ISSUE		DS	01.06.21
REV.	DESCRIPTION	BY	DATE
A			
B			
C			
D			
DRAWN		AJS	
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE			
13.06.12			
DART AEROSPACE LTD			
HAWKESBURY, ONTARIO, CANADA			
DRAWING NO.			
M8061T6T			
TITLE			
6081-T6 TUBING			
REV. C			
SHEET 1 OF 1			
SCALE			
NTS			

KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

CUSTOMER PO NUMBER: M49387050-1		CUSTOMER PART NUMBER: 45279/QQ		PRODUCT DESCRIPTION: 3.500 OD X .250 WA	
KAISER ORDER NUMBER: 323064	LINE ITEM: 001	SHIP DATE: 04/13/2018	KAISER LOT NUMBER: 50595-171	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 1657.000 LB	QUANTITY: 23.000 PCS	B/L NUMBER: 005666	DIAMETER/THICKNESS: 	WIDTH: 	LENGTH: 24.000 FT
SHIP TO: TW METALS INC 235 TUBEWAY CAROL STREAM, IL 60188 USA			SOLD TO: TW METALS INC THE ARBORETUM 760 CONSTITUTION AVENUE EXTON, PA 19341 USA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS(KSI)	YTS(KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
50595-171	0001	0002	45.3	42.4	15.3	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

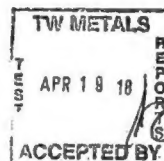
LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
A20763	.59	.26	.21	.05	.96	.09	.05	.04	.00	.00	.00	.01	.02
A20762	.58	.26	.20	.05	.97	.08	.05	.03	.00	.00	.00	.01	.02

Applicable Requirements:

AMS-QQ-A-200/8A, TYPE 1 ASTM-B241-16 ASME-SB241 2015 SECT II Also conforms to EN 10204
3.1 STENCIL WITH AMS-QQ-A-200/8 ASTM-B221-14

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL. MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA (DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5 TRADE AGREEMENTS).



Plant Serial: 00017986
Kaiser Order Number: 323064
Line Item: 001

KAISER ALUMINUM

FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT
<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER

Joseph Ames



Plant Serial: 00017986
Kaiser Order Number: 323064
Line Item: 001